

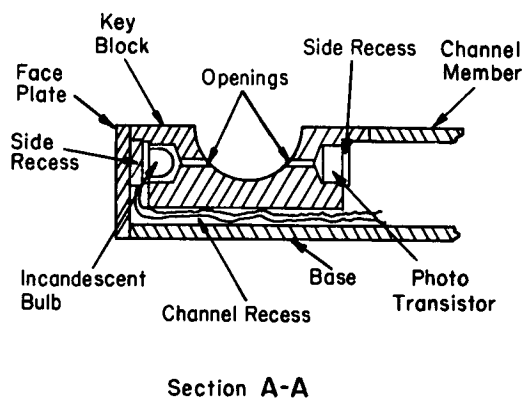
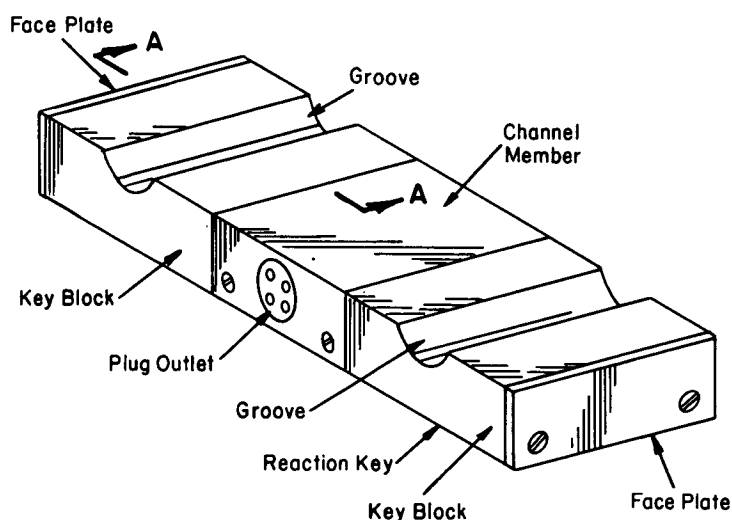
NASA TECH BRIEF

Manned Spacecraft Center



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New Reaction Tester Accurate Within 56 Microseconds



A new testing device measures the simple and disjunctive reaction time of a human subject to light stimuli. It consists of a reaction key, a logic card, panel mounted neon indicators, and interconnecting wiring. The logic circuitry indicates correct or incorrect responses and determines the reaction times with a maximum uncertainty of 56 microseconds. This includes all delays in the logic, light stimuli turn-on, and reaction key.

The reaction key is essentially a bar with two grooves for the subject's index fingers. Openings in the sides of the grooves are aligned and a light beam projected from one to a photo transistor in the other. The subject's finger normally blocks the beam but when moved in response to a command allows the beam to actuate the transistor.

The logic circuitry connects the key to neon indicators on the panel, selectively actuates "ready", "left" or "right" indicators, and provides counter and error outputs. The "ready" light informs the subject that a test is about to begin. The "left" and "right" indicators tell the subject which finger (or fingers) to move. When one or both of these indicators comes on, an electronic counter is started. If the subject reacts by moving the correct finger, the indicator light is extinguished and the counter stopped. If the wrong response is made an error output is produced, the counter continues to count, and the neon indicator remains on until the subject responds correctly. A correct response turns off the error signal, extinguishes the neon indicator, and stops the counter.

(continued overleaf)

Since the response time of this device is short, it may be useful for determining accurate reaction times of patient's undergoing post-operative neurological therapy.

Note:

Requests for further information may be directed to:

Technology Utilization Officer
Manned Spacecraft Center, Code JM7
Houston, Texas 77058
Reference: TSP72-10031

Patent status:

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